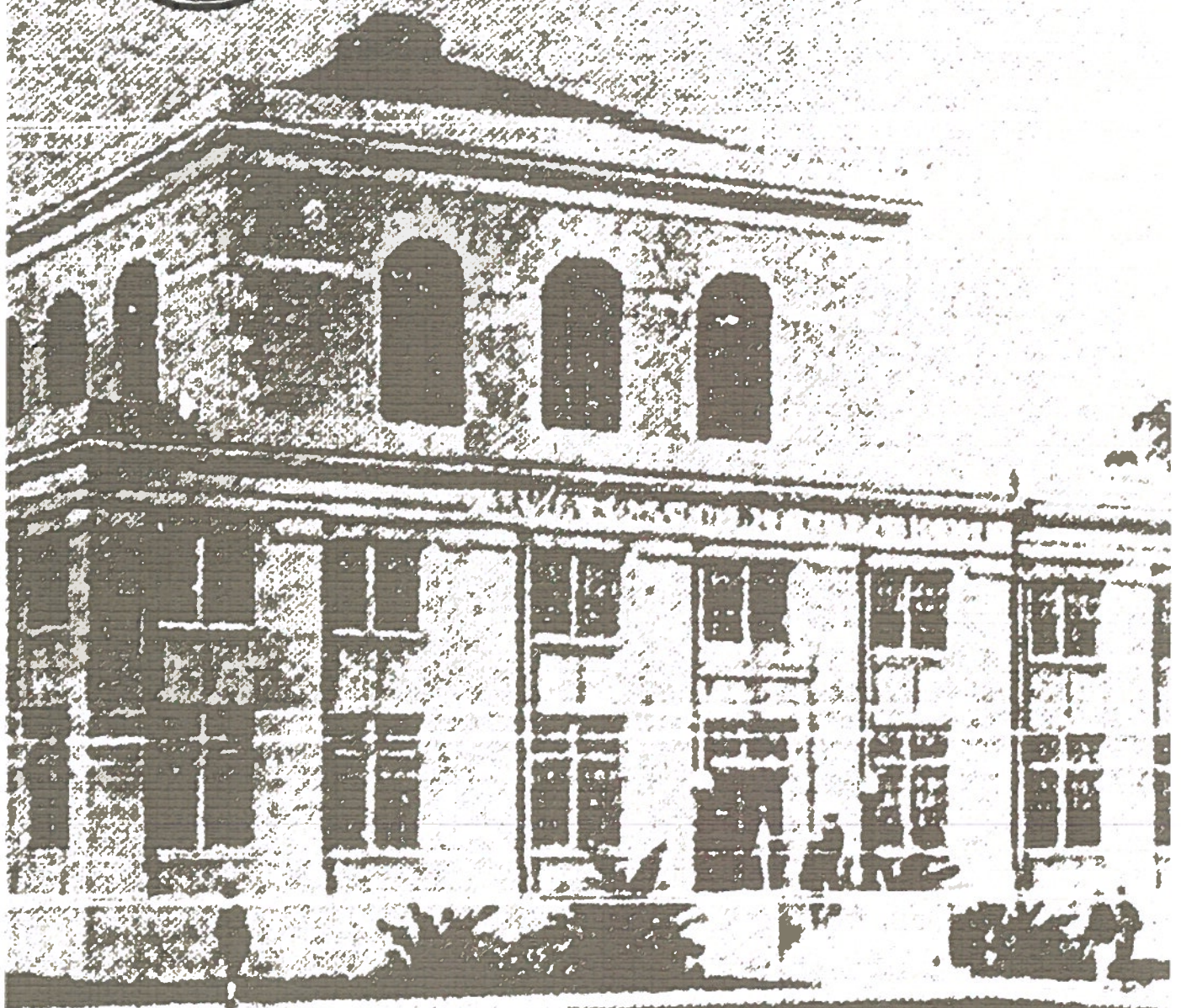




SANTA ROSA COUNTY COURTHOUSE



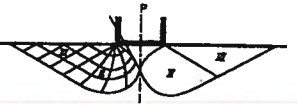
Geotechnical Report

May 9, 2000



Larry M. Jacobs & Associates, Inc.

Geotechnical Engineering / Material Testing / Drilling



REPORT

OF

GEOTECHNICAL INVESTIGATION

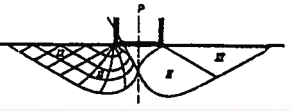
FOR THE PROPOSED

NEW SANTA ROSA COUNTY COURHOUSE

MILTON, FLORIDA

Larry M. Jacobs & Associates, Inc.

Geotechnical Engineering / Material Testing / Drilling



April 28, 2000

File #00-176

REPORT OF
GEOTECHNICAL INVESTIGATION
FOR THE PROPOSED
NEW SANTA ROSA COUNTY COURTHOUSE
MILTON, FLORIDA

FOR: CarlanKillam Consulting Group, Inc.
P O Box 2518
Pensacola, FL 32513-2518
ATTN: Mr. Mike Broussard

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1.0 INTRODUCTION

This report forwards the results of our preliminary Geotechnical Investigation for the proposed **New Santa Rosa County Courthouse, Milton, Florida**. The purpose of this investigation was to evaluate the subsurface conditions present and to render a preliminary soils report including preliminary site preparation, foundation, pavement, and stormwater retention pond recommendations. Our investigation consisted of five 86-101 foot deep Standard Penetration Test borings in the general new building area and three 11 foot deep Standard Penetration Test borings in the proposed new parking lot/retention pond area at the south end of the site; laboratory tests on selected soil samples; and a site visit, inspection and classification of the soil samples, and analysis by our engineering staff.

2.0 SITE AND STRUCTURAL CONDITIONS

The site is located south of the existing Courthouse on Caroline Street in Milton, Florida. The existing old jail will be demolished and the new building could occupy up to a 180'x180' area. We understand that the new building will be off grade and grades will not vary much in the area. Grades are filled up around the existing Courthouse building and drop to the south. Additional parking is possible on the property just south of the existing parking lot. This property is currently on the order of 2'-3' below the existing parking lot grades and stormwater appears to accumulate in the southwest corner of the site where a small swale is present connecting with the culvert under Elmira Street.

3.0 SUBSURFACE CONDITIONS

Figure #1 shows the Boring Location Plan and Figure #2 (18 sheets) shows the Logs of Boring of the five 86-101 foot deep Standard Penetration Test borings drilled in the Court House building area and three 11 foot Standard Penetration Test borings drilled in the new parking lot/stormwater area.

Boring B-1 was located near the southeast corner of the proposed new building area. The boring was located in the existing parking lot area and encountered 2" of asphalt over red medium dense

silty sand base to 8" where black and tan loose slightly silty sand with some shell was encountered to 2' underlain by tan loose to medium dense sand to 6.5' where tan/orange loose slightly silty sand was present to 9'. The boring continued with tan medium dense sand to 13' underlain by white to off-white medium dense sand to 20.7' where light orange/white medium dense silty sand was encountered to 23' underlain by white medium dense silty fine sand to 34' over 1' of white medium dense silty medium to coarse sand to 35' where .5' of orange medium dense medium to coarse silty sand was present to 35.5'. Orange soft clay continued from 35.5' to 38' over dark gray/brown stiff clay to 44' where dark gray loose sandy clayey silt with mica was present to 47' over .5" of iron rock where red to orange medium dense silty fine sand was encountered to 54' underlain by multicolor layered medium dense silty medium to fine sand to 59'. Purple /red layered medium dense silty medium to fine sand was encountered from 59' to 63' over 2' of multicolor stiff clay to 65' where orange/red layered dense medium to fine sand with small clay inclusions was present to 68' over orange/pink dense fine sand to 74' underlain by 1' of multicolor medium dense medium to fine sand to 75'. The boring continued with multicolor stiff clay with seams of sand from 75' to 79.5' where multicolor stiff clay continued to 80.7' over 1.3' of multicolor medium dense silty medium to fine sand to 82' where multicolor purple and gray medium to stiff clay with small seams of multicolor silty fine sand was present to 94' underlain by multicolor purple and gray medium sandy clay with layers of multicolor silty sand to 96' where multicolored medium dense clayey silty sand with seams of clay continued to the bottom of the boring at 101'. Groundwater was encountered at 6.5' at the time of drilling, and that level will vary with rainfall and river levels. Note that the borings were drilled during a period of extended below normal rainfall and groundwater levels are probably on the order of 1'-2' below normal seasonal highs.

Boring B-2 was drilled near the southwest corner of the new building area. The boring encountered 1" of asphalt over red/orange medium dense silty sand and sand with pieces of concrete to 2' over .5' of black loose slightly silty sand to 2.5' where tan loose slightly silty sand was present to 6' over 1.5' of tan/orange medium dense slightly silty sand to 7.5' where white/off-white medium dense sand continued to 14'. Gray stiff to medium sandy clay was present from 14' to 20' underlain by orange medium to stiff sandy clay to 27' where orange/white medium dense medium to fine sand was encountered to 35.5' over orange medium dense silty medium to coarse sand with some gravel to 38'. The boring continued with orange

medium clay over dark gray medium clay to 44' where dark gray stiff slightly sandy silty clay was present to 48' over light gray very loose clayey sandy silt/clayey silty sand to 54' where 1' of multicolor gray, red, and tan medium slightly sandy clay was present to 54.8' over red/orange medium dense silty medium to fine sand to 57' which was underlain by multicolor purple and gray clay to 60'. Multicolor medium dense silty medium to fine sand was encountered from 60'-64' over white/orange medium dense slightly silty fine sand with small seams of clay to 74' where multicolor gray, purple, and tan medium dense silty sand continued to 70.5' underlain by purple/white stiff slightly sandy clay to 73.5' where multicolor red, purple, and orange layered medium dense silty fine sand and sand with small seams of clay was present to 79'. The boring continued with yellow/white layered medium dense sand and slightly silty sand to 83' underlain by multicolor stiff clay with layers of multicolor silty fine sand to 94' where yellow/orange medium dense silty medium to coarse sand was present to 96' over multicolor medium dense slightly clayey silty sand to the bottom of the boring at 101'. Groundwater was present at 7' at the time of drilling, and will vary as noted above.

Boring B-3 was located near the northwest corner of the new building near the southwest corner of the existing Courthouse. The boring had 2" of brown slightly silty sand over tan slightly silty sand to 2.5' where light tan sand was encountered to 4' over tan loose slightly silty sand to 5' which was underlain by white loose sand to 9'. Brown loose slightly silty medium to fine sand with organic stain continued from 9' to 14' over gray loose slightly clayey silty sand to 17' where light gray/brown very loose clayey silty sand was present to 24' underlain by gray very soft sandy clay to 29' where dark gray medium clay was encountered to 32'. The boring continued with orange medium dense silty sand to 39' over orange medium dense sand to 43.5' where 1.5' of orange medium clay was encountered to 45' over dark gray medium clay to 49' where dark gray loose slightly clayey silt with some wood was present to 54' over 1' of gray loose sandy clayey silt to 55' where gray medium clay continued to 59'. Gray medium slightly sandy clayey silt was present from 59' to 64' over 1.2' of gray medium clay underlain by gray loose sandy clayey silt to 67' where 1" of iron rock was encountered over white with traces of orange dense slightly silty fine sand with traces of mica to 74' over multicolor tan and purple dense silty fine sand with traces of clay to 78' where orange dense slightly silty sand with some gravel was encountered to 84'. The boring continued with purple/red dense slightly silty sand with traces of gravel to 89' over multicolor purple, tan, and brown dense slightly silty sand to 92' where .5" of iron rock was

encountered over multicolor purple, gray, and brown medium dense/stiff sandy clayey silt with seams of clay to 96' where gray stiff slightly sandy clay was present to the bottom of the boring at 101'. Groundwater was present at 8.5' at the time of drilling, and will vary as noted above.

Boring B-4 was located near the northeast corner of the new building/southeast corner of the existing Courthouse building. The boring had brown/tan layered slightly silty sand with pieces of brick, gravel and metal from the surface to 4' where 1' of orange/tan loose silty fine sand was present to 5' underlain by white to gray loose to medium dense very fine sand to silty sand to 9' where orange medium dense silty medium to fine sand was encountered to 12'. The boring continued with black very loose silty sand with heavy organics from 12' to 18' over dark gray very soft sandy clay to 24' where light gray/brown medium sandy clay with small seams of sand was present to 34' over dark gray medium clay to 38' where orange/pink loose silty fine sand was encountered to 44'. Orange/white layered very loose silty medium to coarse sand continued to 49' over .8' of orange white layered dense silty fine sand to 49.8' where .7' of white very dense fine sand was present to 50.5' over orange very dense silty medium to fine sand to 54' where multicolor brown, tan, and gray layered medium dense silty fine sand was encountered to 59'. The boring continued with multicolor purple and gray layered medium dense silty medium to fine sand with small seams of clay to 64' over 1' of multicolor stiff sandy clay to 65' where red dense medium to fine silty sand was present to 69' over multicolor white, gray, and purple layered dense sand and silty sand with small seams of clay to 70'. Multicolor white, purple, and brown dense sand was encountered from 70'-74' over orange medium dense sand to 79' where white dense sand over orange and red dense sand with pea gravel was present to 80' underlain by red/purple very dense to dense medium sand to 86' where the boring was terminated due to loss of circulation of the drilling mud. Groundwater was encountered at 7.3' at the time of drilling and will vary as noted above.

Boring B-5 was located in the east central portion of the New Courthouse area. The boring had 1.5" of asphalt over red silty sand to 10" where black silty sand with layers of gray silty sand was present to 2' underlain by light gray silty fine sand to 4' where orange and white loose sand was encountered to 7.5' over orange and tan loose medium to coarse sand to 9'. The boring continued with orange loose medium to coarse silty sand to 12' over gray clayey sand/sandy clay with wood to 17' where dark brown very loose silty sand with traces of organics and wood was encountered to 23' underlain by light gray loose slightly clayey silty sand to 25' where orange

medium clay continued to 28'. Light orange/white medium dense sand was present from 28' to 34' underlain by white/off-white medium dense to dense sand to 37' where 1' of orange medium dense clayey sand was encountered to 38' over orange medium dense slightly silty medium to coarse sand to 40.2' underlain by orange stiff slightly sandy clay to 43'. Gray medium clay was present from 43'-45' over orange medium clay to 45.7' where orange/white medium dense to loose slightly silty fine sand was encountered to 50' underlain by multicolor yellow, orange, and gray very loose clayey fine sand to 52' where orange/white very loose to loose silty fine sand was present to 55'. The boring continued with multicolor purple, gray, and pink medium sandy clay/clayey sand to 57' where purple/red medium dense silty medium to fine sand with mica was encountered to 64' underlain by multicolor purple, gray, and pink medium dense/dense slightly silty medium to fine sand to 69' over multicolor pink and gray dense slightly silty layered medium to fine sand with traces of clay to 74'. Yellow/orange dense medium sand continued to 79' underlain by multicolored gray, brown, and red layered slightly silty sand and silty sand to 84' where orange dense to very dense sand was present to 89' where orange/red dense medium to coarse slightly silty sand with traces of gravel was encountered to 92' over multicolor gray, tan, and purple very stiff clay with layers of fine sand to 96' where multicolor purple, gray, and tan medium dense to dense slightly clayey fine sand was present to the bottom of the boring at 101'.

Boring B-6 was located near the east end of the new parking lot area south of the existing parking lot. The boring had 8" of dark brown loose slightly silty sand topsoil over tan loose to medium dense slightly silty sand to sand to 5.5' where white medium dense sand was encountered to 9' underlain by white fine silty sand to the bottom of the boring at 11'. Groundwater was encountered at 3' at the time of drilling and will vary as noted above.

Boring B-7 was located near the north middle of the new parking lot area. The boring had 2' of brown loose slightly silty sand with pieces of brick and debris over tan loose slightly silty sand to 3.5' where white medium dense sand was encountered to 8' underlain by white medium dense silty fine sand to 10.5' where orange and white medium to coarse slightly silty sand was encountered to the bottom of the boring at 11'. Groundwater was encountered at 2.5' at the time of drilling and will vary as noted above.

Boring B-8 was located in the southwest portion of the parking lot site. The boring had 4" of red silty sand over black loose silty sand to 10" where gray medium dense slightly silty sand was

present to 2' underlain by brown and white medium dense fine sand to sand to 7.5' where white medium dense sand continued to 10' underlain by orange and white medium dense medium to coarse sand to the bottom of the boring at 11'.

4.0 LABORATORY TEST RESULTS

Laboratory testing consisted of natural water content tests, wash #200 sieve tests, Atterberg limit tests, and one unconfined compression test. Results of those tests are shown on the Logs of Boring opposite the samples tested.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 Basis of Recommendations

Recommendations rendered herein are based on assumed and/or design information available at the time of this report, the subsurface conditions encountered in the test borings, commonly accepted Geotechnical Engineering principles and practices, and experience with similar soil/groundwater conditions. Should final project design information differ from the design information used in this report, our office should be notified and retained so that this report can be modified as needed.

Regardless of the care exercised in performing a Geotechnical Investigation, the possibility always exists that soil and/or groundwater conditions between the test borings will differ from those encountered at the specific boring locations. In addition, construction operations may alter the soil conditions. Therefore, it is recommended that a representative from Larry M. Jacobs & Associates, Inc. be involved throughout construction phases addressed in this report. Furthermore, considering our familiarity with the project, the subsurface conditions present, and the intent of the design and recommendations, we recommend that Larry M. Jacobs & Associates, Inc. be retained as the testing laboratory in the event differing subsurface conditions are encountered during construction.

5.2 Preliminary General Comments and Site Preparation Recommendations

Soil conditions vary erratically across the site and each boring had differing conditions. The new building will need to have pile foundations to carry the relatively large column loadings as conditions for footings range from fair to poor from both bearing and settlement concerns. The conditions at the existing Courthouse are fair for footings in roughly the top 12' but very loose and very soft soils are present to roughly 25'+ which are potential settlement concerns. It appears that the existing Courthouse building was cut in somewhat on the basement level, which helped to minimize the increase in stress on the underlying soft soils and limit settlements of that structure. Based on our exterior inspection of the existing Courthouse building, the existing building appears to be in good condition considering the marginal soil conditions encountered in the test borings, and most of the cracking that we observed appeared to be due to expansion and contraction.

The amount of potentially compressible soils varies widely among the borings, and generally little or no fill should be added to the new building site as significant fill would cause compression of the underlying soft soils. This could create negative skin friction and down drag loadings on the new piles as well as cause settlements of the existing ground/asphalt surface.

Filling will be needed in the new parking lot area to raise grades to close to the existing pavement level, and that should be done early in construction to allow as much of the settlement from underlying soils to occur as practical (although the closest deep borings (B-1 and B-2) indicated that there was little soft soils in those borings hopefully indicating similar conditions in the new parking area). Filling in that area should first strip the topsoils, cut out old stumps, root mass, and any buried deleterious organic or rubble materials, and fill the area with soils compacted to a minimum of 100% of the Standard Proctor Test (ASTM D698). The old house on the site could have at one time had a septic tank system, and we would suggest careful inspection of the top of subgrade after stripping and inspection of any problem areas of compaction with test pits which could indicate a buried septic system or other buried deleterious materials, which would need to be removed. The borings indicated relatively firm natural soils beneath the loose surficial materials indicating that most of the site would not be expected to have unusual compaction difficulty after removing the poorer surficial materials. Note that the borings were located in the uphill portions of the site and the south side of the west end of the

property is considerably lower and has a small swale for stormwater drainage leading to a pipe under the road. We expect potentially more poor surficial soils in this area because it is low. Groundwater was 2.5'-3' below grade at the time of drilling, but wet weather water levels in the ground could be near surface or above grade in the swale area and at least 1'-2' more shallow across the site during normal seasonal wet weather conditions. Site work should be scheduled for a historically dry period if at all practical to limit construction concerns for the new parking lot area.

5.3 Preliminary Foundation Recommendations

Driven piles have the advantage of feedback on when suitable tip conditions/capacity has been obtained, where auger cast piles provide no feedback on what the tip/pile capacity will be. Driven piles are probably not advisable because of the surrounding nearby structures, many of which may be marginally founded, and could be damaged during the pile driving. The use of auger cast piles to support the structure is advisable from a lack of vibration standpoint and to obtain as much skin friction as possible as much of the piles capacity will need to come from skin friction, as the tip bearing conditions are quite erratic. Establishing the pile tips in a sand bearing stratum is desirable to obtain the highest allowable loading for the piles, and the erratic soil conditions will apparently require some variation in pile lengths in order to place the tips in sand soils, and the density of those sand soils will vary from medium dense to dense based on the borings. The five to-date borings indicate pile tips will need to be placed roughly 70'-75'+ below existing grade to maximize the available pile capacity. Our preliminary calculations indicate an allowable pile loading of roughly 55-60 tons for a 16" diameter auger cast pile at those tip embedments if the pile tip is in at least medium dense sand soils and only roughly 40 tons if the tip is placed into stiff clays which have a considerably lower bearing capacity. Additional deep borings will need to be made across the building site to provide more assurance of the soil conditions to better determine the achievable capacities and so areas of differing pile length requirements can be reasonably defined.

The performance of ACIP piles is very much dependent on the quality of installation. There can be a substantial difference in ACIP pile capacities depending on equipment and installation

techniques, and the selection of an experienced, highly competent ACIP pile contractor who has proper equipment in good working order will be critical to the pile capacities as well as the timeliness of the job. The allowable pile capacities noted above are theoretical capacities based on the soil conditions encountered in the test borings. Compression pile load tests will be required to verify theoretical allowable pile capacities. The compression test should be performed in accordance with ASTM D1143, Standard Test Method for Piles under Static Axial Compressive Load (cyclic loading). The test piles should be installed in a manner similar to production piles so as not to bias the results of the tests, and it is desirable to install the reaction piles prior to the test piles to give the contractor an opportunity to fine tune his equipment and installation procedures. We recommend that the test piles be installed in non-production pile locations as it is the intent of load tests to substantially load the piles so that the ultimate capacity, and subsequently the allowable pile capacity, can be determined given the contractor's installation methods/techniques and the piles can sometimes be damaged in the process. Note that the purpose of a pile load test is to verify theoretical pile capacities, and that adjustments to design pile capacities and/or lengths may be necessary.

5.4 Pavement Recommendations

The existing pavements have a silty sand base material which does not have sufficient clay content to meet FDOT requirements. Under normal conditions assuming similar pavement elevations sand clay base is probably acceptable. We understand that periodic flooding is possible in this area, and sand clay materials can be significantly damaged by flood conditions, as the material loses much of its strength when wetted. Up grading to a moisture resistant base such as graded aggregate would minimize the potential for pavement system damage in the event of a flood.

5.5 Retention/Detention Pond Recommendations

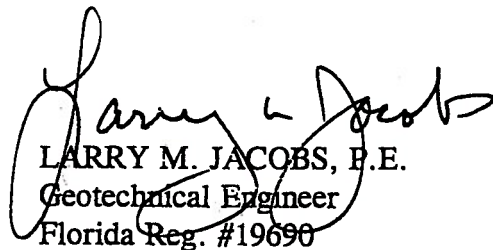
We would assume that a pond/stormwater treatment will be needed for at least the new pavement area. The borings in the new pavement area indicated moderate permeability tan slightly silty sand (SM/SP) or fine silty sands (SM) (approximately 5-2 ft/day) over white sands (SP) (approximately 25 ft/day) to roughly 8'-10' underlain by moderately low permeability silty sand

soils (approximately 1 ft/day) in two of the three borings. Because of the potential for shallow seasonal groundwater, a pond will not work well in this area, as seasonal groundwater levels will be most shallow when storage and outflow capacity is most needed. We would recommend stripping any surficial restrictive topsoil from the pond area and filling the pond area with sand to raise the bottom grades as much as practical. Using a long narrow pond/swale is advisable, as it is most efficient. A pop off will be needed to limit the water the pond must handle and an underdrain system is advisable to assure wet weather storage capacity.

We hope this preliminary report provides sufficient information for the present. If you have any questions or comments, please feel free to call.

Very truly yours,

LARRY M. JACOBS & ASSOCIATES, INC.



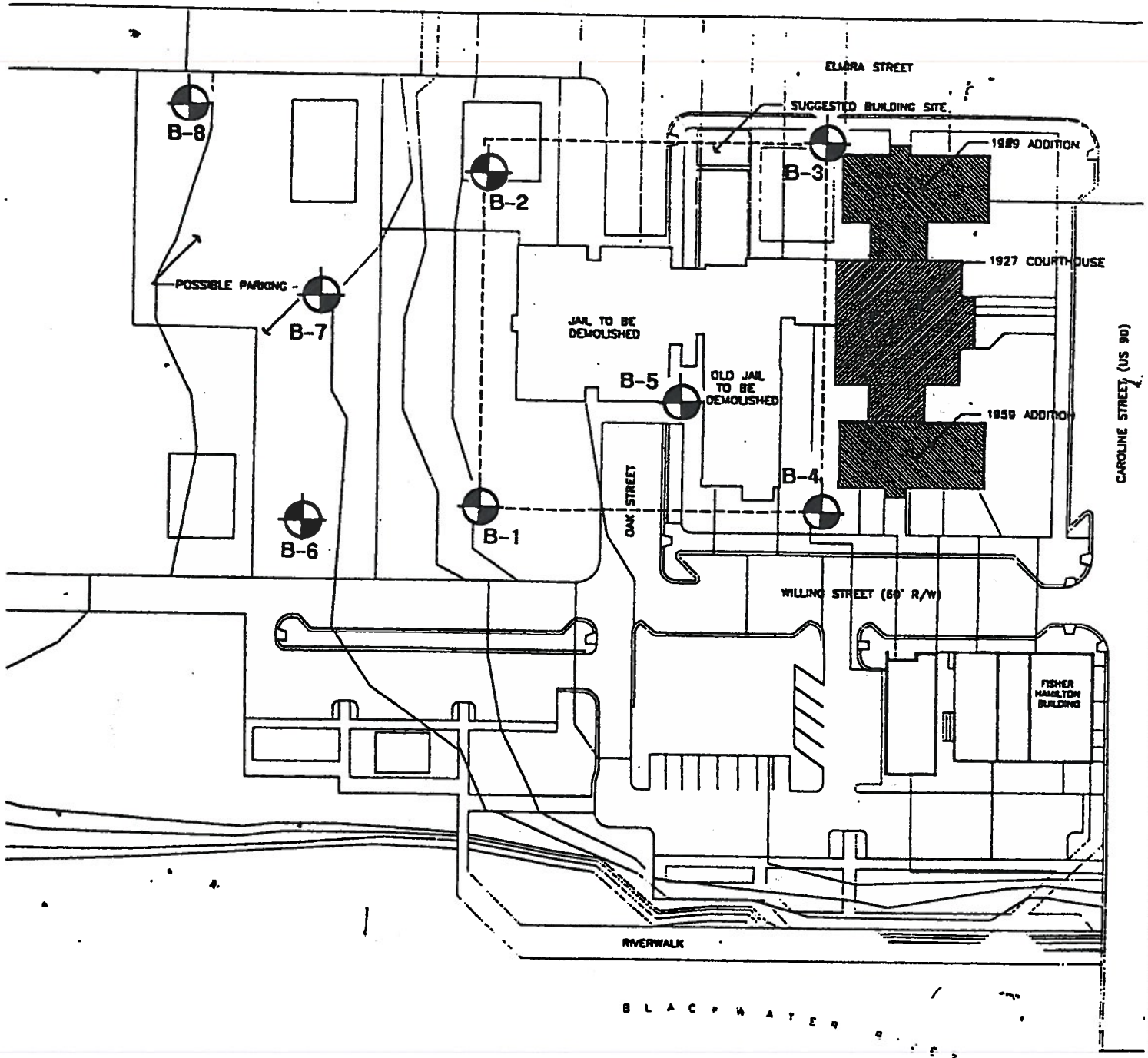
LARRY M. JACOBS, P.E.
Geotechnical Engineer
Florida Reg. #19690

LMJ REPORTS/pb/SANTA ROSA COURTHOUSE2

c: Mr. Stuart Smith
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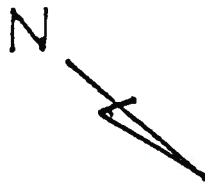
BORING LOCATION PLAN

FIGURE #1



STANDARD PENETRATION TEST BORING

ALL BORING LOCATIONS ARE APPROXIMATE



PROJECT: New Santa Rosa County Courthouse
Milton, Florida

JOB: 00-176

SCALE: Not to
Scale

DATE: 4/28/2000

11. LARRY M. JACOBS & ASSOCIATES, INC.

BY: PB

Larry M. Jacobs & Associates, Inc.

Geotechnical Engineering / Material Testing / Drilling

328 East Gadsden Street Pensacola, Florida 32501 850-434-0846 Fax 850-433-7027



Project:	Log of Boring	Ground Water:
Project No:	Type of Boring:	Elevation:
Location:	Date:	Datum:

SUBSURFACE PROFILE				Lab Data							Shear Strength		Visual U/S		
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	PL (%)	LL (%)	Unit Weight (pcf)	% Minus #200		Cohesion (psf)	Friction (degrees)
	0		Ground Surface												
	1		Topsoil	1											
	2		Sand	2											SP
	3		Silty Sand	3											SM
	4		Slightly Silty Sand	4											SM/SP or SP/SM
	5														
	6		Silt												ML or MH
	7			5											
	8		Clay	6											CL or CH
	9		Clayey Silty Sand	7											SM/SC
	10		Silty Clayey Sand	8											or SC/SM
	11		Peat or Organics												PT
	12			9											
	13		Gravel												GP
	14			10											
	15		Split Spoon Sample												
	16		Undisturbed Sample												
	17		Auger Sample												
	18		Perched Water												
	19		Groundwater Level												
	20														
	21		End of Boring												

Legend:

Nf = Field Hammer Blows From Penetration Test Boring
 NMC = Natural Moisture Content
 PL = Plastic Limit
 LL = Liquid Limit
 % Minus #200 = % Passing the #200 Sieve

Remarks: All soil classifications visual unless test results are shown.

Larry M. Jacobs & Associates, Inc.

Geotechnical Engineering / Material Testing / Drilling

328 East Gadsden Street Pensacola, Florida 32501 850-434-0846 Fax 850-433-7027



Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-1

Ground Water: 6.5' Below Datum
: at Time of Boring

Project No: 00-176























Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/20/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
	0		Ground Surface												
			Asphalt (0 to 2 inches)	1		7*									SM
			Red medium dense silty sand (2 to 8 inches)	2		7									SM/SP
			Black and tan loose slightly silty sand with some shell (8 inches to 2 feet)												SP
	5			3		11*									SP/SM
			Tan loose to medium dense sand	4		10*									SP
			Tan/orange loose slightly silty sand												
	10		Tan medium dense sand	5		24									SP
			White/off-white medium dense sand												
	15			6		21									SP
			Light orange/white medium dense slightly silty sand												
	20			7		17									SP/SM
			White medium dense silty fine sand												
	25			8		16									SM
															
30			9		23									SM/SP	
		White medium dense slightly silty medium to coarse sand													
35			10		11*									SM/SP	
		Orange medium dense silty medium to coarse sand													
		Orange soft clay													
40		Dark gray/brown stiff clay												CL	

* Hammer Blows

Sample #1: 8/4/3
Sample #3: 4/6/5
Sample #4: 6/5/5
Sample #10: 9/8/3

Sample #20: 4/5/7
Sample #22: 4/4/6
Sample #23: 3/5/7













Remarks: All soil classifications visual unless test results are shown.

Larry M. Jacobs & Associates, Inc.

Geotechnical Engineering / Material Testing / Drilling
328 East Gadsden Street Pensacola, Florida 32501 850-434-0846 Fax 850-433-7027



Project: Santa Rosa County Courthouse : Milton, FL
Project No: 00-176 Type of Boring: ASTM D1586 Elevation: N/A
Location: As Per Figure #1 Date: 4/20/00 Datum: Existing Grade

SUBSURFACE PROFILE				Lab Data							Shear Strength		Visual U/S		
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200		Cohesion (psf)	Friction (degrees)
			Dark gray/brown stiff clay	11		9									CH/OH
	45		Dark gray loose sandy clayey silt with mica	12		5									ML
			Iron Rock (.5 Inches)												
	50		Red to orange medium dense silty fine sand	13		15									SM
	55		Multicolored layered medium dense silty medium fine sand	14		26									SM
	60		Purple/red layered medium dense silty medium fine sand	15		15									SM
			Multicolored stiff clay												CL/CH
	65		Orange/red layered dense silty medium fine sand with small inclusions of clay	16		45									SM
	70		Orange/pink dense fine sand	17		42									SP
	75		Multicolored medium dense silty medium to fine sand	18		16									SM
			Multicolored stiff clay with seams of sand												CL/CH
	80		Multicolored stiff clay												CL/CH

* Hammer Blows

Sample #1: 8/4/3 Sample #20: 4/5/7
Sample #3: 4/6/5 Sample #22: 4/4/6
Sample #4: 6/5/5 Sample #23: 3/5/7
Sample #10: 9/8/3

Remarks: All soil classifications visual unless test results are shown.

Figure: 2

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Project: Santa Rosa County Courthouse : Milton, FL	Log of Boring B-1	Ground Water: 6.5' Below Datum : at Time of Boring
Project No: 00-176	Type of Boring: ASTM D1586	Elevation: N/A
Location: As Per Figure #1	Date: 4/20/00	Datum: Existing Grade

SUBSURFACE PROFILE				Lab Data							Shear Strength		Visual U/S		
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200		Cohesion (psf)	Friction (degrees)
			Multicolored stiff clay	19		20									
			Multicolored medium dense silty medium fine sand												SM
	85		Multicolored purple and gray stiff clay with small seams of multicolored silty fine sand	20		12*									CL/CH
	90			21		17									
	95		Multicolored purple and gray medium sandy clay with layers of multicolored silty sand	22		10*									CL + SM
			Multicolored medium dense clayey silty sand with seams of clay												SC
	100			23		12*									
			End of Boring												
	105														
	110														
	115														
	120														

* Hammer Blows

Sample #1: 8/4/3 Sample #20: 4/5/7
 Sample #3: 4/6/5 Sample #22: 4/4/6
 Sample #4: 6/5/5 Sample #23: 3/5/7
 Sample #10: 9/8/3

Remarks: All soil classifications visual unless test results are shown.

Page: 3 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-2

Ground Water: 7.0' Below Datum
: at Time of Boring

Project No: 00-176















Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/24/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
	0		Ground Surface													
			Asphalt (0 to 1 inch)	1		15										SM & SP
			Red/orange medium dense silty sand and sand with pieces of concrete	2		16										SM/SP
	5		Black loose slightly silty sand	3		9										SP/SM
			Tan loose slightly silty sand													
			Tan/orange medium dense slightly silty sand	4		16										SM/SP
	10		White/off-white medium dense sand	5		15										SP
	15		Gray stiff to medium sandy clay	6		9										CL
	20		Orange medium to stiff sandy clay	7		5										CL
	25		Orange/white medium dense medium to fine sand	8		22										
	30		Orange/white medium dense medium to fine sand	9		26										SP
35		Orange medium dense silty medium to coarse sand with some gravel	10		23										SM	
40		Orange medium clay													CL/CH	
		Dark gray medium clay														

* UD = Undisturbed Samples taken from 41.0'-43.5', 51.0'-53.5' (no return), and 92.0'-94.5'

**Hammer Blows

Sample #15: 4/8/12

Remarks: All soil classifications visual unless test results are shown.

Page: 1 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-2

Ground Water: 7.0' Below Datum
: at Time of Boring

Project No: 00-176



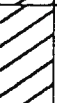


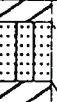






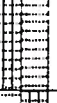

Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/24/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
			Dark gray medium clay	11		7										CH/OH
	45		Dark gray stiff slightly sandy silty clay	12		9										OH
	50		Light gray very loose clayey sandy silt/clayey silty sand	13		4										ML/SM
	55		Multicolored gray, red, and tan medium slightly sandy clay	14		21		29.5	51	24						CL
			Red/orange layered medium dense silty medium to fine sand													SM
	60		Multicolored purple and gray stiff slightly sandy clay	15		20**										CL/CH
			Multicolored medium dense silty medium to fine sand													SM
	65		White/orange medium dense slightly silty fine sand with small seams of clay	16		24										SM/SP
	70		Multicolored gray, purple, and tan medium dense silty sand	17		16										SM
			Purple/white medium to stiff slightly sandy clay													CL
	75		Multicolored red, purple, and orange layered medium dense silty fine sand and sand with small seams of clay	18		24		28.0	48	24						SM&SP+CL
	80		Yellow/white layered medium dense sand and slightly silty sand													

* UD = Undisturbed Samples taken from 41.0'-43.5', 51.0'-53.5' (no return), and 92.0'-94.5'

**Hammer Blows

Sample #15: 4/8/12

Remarks: All soil classifications visual unless test results are shown.

Page: 2 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-2

Ground Water: 7.0' Below Datum
: at Time of Boring

Project No: 00-176


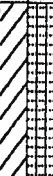





Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/24/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
			Yellow/white layered medium dense sand and slightly silty sand	19		24										SP&SP/SM
	85		Multicolored stiff clay with layers of multicolored silty fine sand	20		14		26.3	48	22						CL/SM
	90			21		13										
						*UD										
	95		Yellow/orange medium dense silty medium to coarse sand	22		24										SM
			Multicolored medium dense slightly clayey silty sand													SC/SM
	100			23		21										
			End of Boring													
	105															
	110															
	115															
	120															

* UD = Undisturbed Samples taken from 41.0'-43.5', 51.0'-53.5' (no return), and 92.0'-94.5'

**Hammer Blows

Sample #15: 4/8/12

Remarks: All soil classifications visual unless test results are shown.

Page: 3 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-3

Ground Water: 8.5 Feet Below Datum
: at Time of Boring

Project No: 00-176

Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/18/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
	0		Ground Surface				24.7									SM/SP
			Brown slightly silty sand (0 to 2 inches)	1		*HA										SP/SM
			Tan slightly silty sand (2 to 30 inches))	2		*HA										SP
	5		Light tan sand	3		8										SP
			Tan loose slightly silty sand													
		White loose sand	4		9	SP										
	10		Brown loose slightly silty medium to fine sand with organic stain	5		7										SP/SM
	15		Gray loose slightly clayey silty sand	6		5										SC/SM
	20		Light gray/brown very loose clayey silty sand	7		2	SC									
	25		Gray very soft sandy clay	8		2	CL/SC									
	30		Dark gray soft clay	9		3	OH									
	35		Orange medium dense silty sand	10		29	SM									
	40		Orange medium dense sand													

*HA: Hand Augured to 4' due to utility concerns

Remarks: All soil classifications visual unless test results are shown.

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-3

Ground Water: 8.5 Feet Below Datum
: at Time of Boring

Project No: 00-176










Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/18/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
			Orange medium dense sand	11		29										SP
	45		Orange medium clay													CL
			Dark gray medium clay	12		6										
	50		Dark gray loose sandy clayey silt with some pieces of wood	13		6										ML/SC
	55		Gray loose sandy clayey silt													ML/SM
			Gray medium slightly sandy clay	14		6										
	60		Gray medium slightly sandy clayey silt	15		6										ML/OL
	65		Gray medium clay													OH
			Gray loose sandy clayey silt	16		7										
	70		Iron Rock (.5 inch)													
			White with traces of orange dense slightly silty fine sand with traces of mica	17		40										
	75		Multicolored tan and purple silty fine sand with traces of clay	18		47										SM
	80		Orange dense slightly silty sand with some gravel													

*HA: Hand Augured to 4' due to utility concerns

Remarks: All soil classifications visual unless test results are shown.

Page: 2 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-3

Ground Water: 8.5 Feet Below Datum
: at Time of Boring

Project No: 00-176

Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/18/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
			Orange dense slightly silty sand with some gravel	19		44									SM/SP
	85		Purple/red dense slightly silty sand with traces of gravel	20		43									SP/SM
	90		Multicolored purple, tan and brown slightly silty sand	21		43									SM/SP
			Iron Rock (.5 Inch)												
	95		Multicolored purple, gray and brown medium dense/stiff sandy clayey silt with seams of clay	22		12									ML/CL
			Gray stiff slightly sandy clay												OH
	100			23		14									
			End of Boring												
	105														
	110														
	115														
	120														

*HA: Hand Augured to 4' due to utility concerns

Remarks: All soil classifications visual unless test results are shown.

Page: 3 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-4

Ground Water: 7.3 Feet Below Datum
: at Time of Boring

Project No: 00-176








Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/14/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
	0		Ground Surface												
			Brown/tan layered slightly silty sand with pieces of brick, gravel, and metals	1		*HA									SM/SP
				2		*HA									
	5		Orange/tan loose silty fine sand	3		10									SM
				White to gray loose to medium dense very fine sand to silty sand	4		19								SP to SM
	10		Orange medium dense silty medium to fine sand	5		16									SM
				Black very loose silty sand with heavy organics	6		**HW		29.6				28.6		
	15		Dark gray very soft sandy clay	7		**HW									OL
				Light gray/brown medium sandy clay with small seams of sand	8		4								CL
	25				9		3								
	30		Dark gray medium clay	10		3									OL
	35			Orange/pink loose silty fine sand											
	40														

*HA: Hand Augured to 4' due to utility concerns

**HW: Hammer Weight

***HAMMER BLOWS

Sample #16: 7/20/19

Sample #19: 17/24/32

Sample #20: 12/18/22

Remarks: All soil classifications visual unless test results are shown.

Page: 1 of 3

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-4

Ground Water: 7.3 Feet Below Datum
: at Time of Boring

Project No: 00-176

Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/14/00

Datum: Existing Grade

SUBSURFACE PROFILE				Lab Data							Shear Strength		Visual U/S		
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200		Cohesion (psf)	Friction (degrees)
			Orange/pink loose silty fine sand	11		5									SM
	45		Orange/white layered very loose silty medium to coarse sand	12		4									SM
	50		Orange/white layered dense silty fine sand	13		71									SM
			White very dense fine sand												SP
			Orange very dense silty medium to fine sand												SM
	55		Multicolored brown, tan, and gray layered medium dense silty fine sand	14		21									SM
	60		Multicolored purple and gray layered medium dense silty medium to fine sand with small seams of clay	15		19									SM & CL
	65		Multicolored stiff sandy clay	16		39***									CL
			Red dense silty medium to fine sand												SM
	70		Multicolored white, gray, and purple layered dense sand and silty sand with small seams of clay	17		49									SP & SM
			Multicolored white, purple, and brown dense sand												SP
	75		Orange medium dense sand	18		21									SP
	80		White dense sand												SP
															SP

*HA: Hand Augured to 4' due to utility concerns

**HW: Hammer Weight

***HAMMER BLOWS

Sample #16: 7/20/19

Sample #19: 17/24/32

Sample #20: 12/18/22

Remarks: All soil classifications visual unless test results are shown.

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Project: Santa Rosa County Courthouse
: Milton, FL

Log of Boring B-4

Ground Water: 7.3 Feet Below Datum
: at Time of Boring

Project No: 00-176

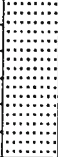
Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/14/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
			Red/purple very dense to dense medium sand	19		56***									
	85			20	40***										
			End of Boring												
	90														
	95														
	100														
	105														
	110														
	115														
	120														

*HA: Hand Augured to 4' due to utility concerns

**HW: Hammer Weight

***HAMMER BLOWS

Sample #16: 7/20/19

Sample #19: 17/24/32

Sample #20: 12/18/22

Remarks: All soil classifications visual unless test results are shown.

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Project: Santa Rosa County Courthouse : Santa Rosa County, FL Project No: 00-176 Location: As Per Figure #1	Log of Boring B-5 Type of Boring: ASTM D1586 Date: 4/26/00	Ground Water: 4 Feet Below Datum : at Time of Boring Elevation: N/A Datum: Existing Grade
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SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nr	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
	0		Ground Surface												
			Asphalt (0 to 1.5 inches)	1		*HA									SM
			Red silty sand (1.5 to 10 inches)												SM
			Black with layers of gray silty sand (10 inches to 2 feet)	2		*HA									SM
	5		Light gray silty fine sand	3		8									SP
			Orange and white loose sand												
			Orange and tan loose medium to coarse sand	4		10									SP
	10		Orange loose medium to coarse silty sand	5		7									SM
			Gray very loose clayey sand/soft sandy clay with wood												
	15			6		3									SC/CL
			Dark brown very loose silty sand with traces of organics and wood												
	20			7		3									SM
			Light gray loose slightly clayey silty sand												
	25		Orange medium clay	8		6									SC/SM
															CL
	30		Light orange/white medium dense sand	9		27									SP
	35		White/off white medium dense to dense sand	10		31**									SP
			Orange medium dense clayey sand												SC
	40		Orange medium dense slightly silty medium to coarse sand												SM/SP

*HA=Hand Augured to 4' due to utility concerns

**=Hammer Blows

Sample #10: 10/14/17

Sample #14: 5/5/8

Sample #11: 6/9/2

Sample #20: 19/28/30

Sample #12: 3/3/8

Sample #23: 11/14/20

UD= Undisturbed Samples Taken From 42'-44.5', 51'-53.5', and 92'-94.5' (No return)

Remarks: All soil classifications visual unless test results are shown.

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Geotechnical Engineering / Material Testing / Drilling

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Project: Santa Rosa County Courthouse : Santa Rosa County, FL	Log of Boring B-5	Ground Water: 4 Feet Below Datum : at Time of Boring
Project No: 00-176	Type of Boring: ASTM D1586	Elevation: N/A
Location: As Per Figure #1	Date: 4/26/00	Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nr	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
			Orange medium dense slightly silty medium to coarse sand	11		11**									CL
			Orange stiff slightly sandy clay			UD		24.8					979		CH
	45		Gray medium clay												CL/CH
			Orange medium clay	12		11**									SP/SM
			Orange/white medium dense to loose slightly silty fine sand												
	50		Multicolored yellow, orange, and gray soft fine sandy silty clay	13		3		28.0				56.5			CL/SC
			Orange/white very loose to loose silty fine sand			UD									SM
	55		Multicolored purple, gray and pink medium sandy clay/clayey sand	14		13**		24.3							CL/SC
			Purple/red medium dense silty medium to fine sand with mica												
	60			15		22									SM
			Multicolored purple, gray, and pink medium dense to dense slightly silty medium to fine sand												
	65			16		30									SM/SP
			Multicolored pink and gray dense slightly silty layered medium to fine sand with traces of clay												
	70			17		38									SM/SP
			Yellow/orange dense medium sand												
	75			18		42									SP
	80														

*HA=Hand Augured to 4' due to utility concerns

**=Hammer Blows

Sample #10: 10/14/17

Sample #14: 5/5/8

Sample #11: 6/9/2

Sample #20: 19/28/30

Sample #12: 3/3/8

Sample #23: 11/14/20

UD= Undisturbed Samples Taken From 42'-44.5', 51'-53.5', and 92'-94.5' (No return)

Remarks: All soil classifications visual unless test results are shown.

Page: 2 of 3

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Project: Santa Rosa County Courthouse
: Santa Rosa County, FL

Log of Boring B-5

Ground Water: 4 Feet Below Datum
: at Time of Boring

Project No: 00-176

Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/26/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nr	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
			Multicolored gray, brown and red layered slightly silty sand and silty sand	19		33									SM/SP+SM
	85		Orange dense to very dense sand	20		58**									SP
	90		Orange/red dense medium to coarse slightly silty sand with traces of gravel	21		37									SM/SP
	95		Multicolored gray, tan and purple very stiff clay with layers of fine sand	22		UD									CL/CH
	100		Multicolored purple, gray and tan medium dense to dense slightly clayey fine sand	23		34**									SM/SC
			End of Boring												
	105														
	110														
	115														
	120														

*HA=Hand Augured to 4' due to utility concerns

**=Hammer Blows

Sample #10: 10/14/17

Sample #14: 5/5/8

Sample #11: 6/9/2

Sample #20: 19/28/30

Sample #12: 3/3/8

Sample #23: 11/14/20

UD= Undisturbed Samples Taken From 42'-44.5', 51'-53.5', and 92'-94.5' (No return)

Remarks: All soil classifications visual unless test results are shown.














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Project: Santa Rosa County Courthouse : Santa Rosa County, Fl	Log of Boring B-6	Ground Water: 3 Feet Below Datum : at Time of Boring
Project No: 00-176	Type of Boring: ASTM D1586	Elevation: N/A
Location: As Per Figure #1	Date: 4/28/00	Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nf	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
	0		Ground Surface													
			Dark brown loose slightly silty sand (0 to 8 inches)	1		6										SM/SP
	1		Tan loose to medium dense slightly silty sand to light tan sand													SM/SP to SP
	2															
	3			2		12*							12.1			
	4															
	5			3		11*						4.8				
	6		White medium dense sand													SP
	7															
	8			4		13										
	9		White medium dense silty fine sand													SM
	10			5		23							33.6			
11		End of Boring														
12																

* Hammer Blows

Sample #2: 4/6/6

Sample #3: 5/5/6

Remarks: All soil classifications visual unless test results are shown.

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Project: Santa Rosa County Courthouse : Santa Rosa County, Fl	Log of Boring B-7	Ground Water: 2.5 Feet Below Datum : at Time of Boring
Project No: 00-176	Type of Boring: ASTM D1586	Elevation: N/A
Location: As Per Figure #1	Date: 4/28/00	Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nr	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)	
	0		Ground Surface												
	1		Brown loose slightly silty sand with pieces of brick and rock	1		9									SM/SP
	2		Tan loose slightly silty sand	2		8									SP/SM
	3														
	4														
	5				3		15								
	6			White medium dense sand											SP
	7														
	8				4		12								
	9			White medium dense silty fine sand											SM
	10														
	11			Orange and white medium dense slightly silty medium to coarse sand	5		15								SP/SM
12			End of Boring												

Remarks: All soil classifications visual unless test results are shown.

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Project: Santa Rosa County Courthouse
: Santa Rosa County, Fl

Log of Boring B-8

Ground Water: 3 Feet Below Datum
: at Time of Boring

Project No: 00-176



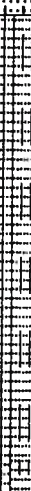


Type of Boring: ASTM D1586

Elevation: N/A

Location: As Per Figure #1

Date: 4/28/00

Datum: Existing Grade

SUBSURFACE PROFILE							Lab Data						Shear Strength		Visual U/S	
Water Level	Depth	Symbol	Description	Sample Number	Sample Symbol	Nr	Permeability (ft/day)	NMC (%)	LL (%)	PL (%)	Unit Weight (pcf)	% Minus #200	Cohesion (psf)	Friction (degrees)		
	0		Ground Surface													
			Red loose silty sand (0 to 4 inches)													SM
			Black loose silty sand (4 to 10 inches)	1		11*										SM
	1		Gray loose to medium dense slightly silty sand (10 inches to 2 feet)													SP/SM
	2		Brown and white medium dense to loose silty fine sand to slightly silty fine sand	2		18						18.6			SM to SP/SM	
	3															
	4															
	5			3		21										
	6															
	7			White medium dense sand	4		15*									SP
	8															
	9															
10			Orange and white medium dense sand with medium to coarse sand	5		16									SP	
11																
12			End of Boring													

* Hammer Blows

Sample #1: 3/5/6

Sample #4: 4/6/9

Remarks: All soil classifications visual unless test results are shown.

FIGURE #3

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